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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,808	04/30/2007	Howard Matthew Colquhoun	JMYT-369US	4089
23122	7590	07/22/2009	EXAMINER	
RATNERPRESTIA			THOMAS, JAISON P	
P.O. BOX 980			ART UNIT	
VALLEY FORGE, PA 19482			PAPER NUMBER	
			1796	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,808	Applicant(s) COLQUHOUN ET AL.	
	Examiner Jaison P. Thomas	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 5/21/2008 has been entered.

2. Claims 1-3 and 6-16 stand rejected under 35 USC 103(a) as being unpatentable over McGrath et al. (WOO 02/25764) as detailed in the Office Action mailed 6/26/2008 on pgs. 2-3.

3. Claims 1-8,13 and 14 stand rejected under 35 USC 103(a) as unpatentable over Rose (EP 0008894) as detailed in the Office Action mailed 6/26/2008 on pg. 3.

4. Claims 1-10 and 13-16 are rejected under 35 USC 103(a) as unpatentable over Shinoda et al. (US Patent App. Pub. No. 2002/0187377) as detailed in the Office Action mailed 6/26/2008 on pgs. 3-4.

Response to Arguments

5. Applicant's arguments filed 5/21/2009 have been fully considered but they are not persuasive.

With respect to the rejections of McGrath and Rose, the Applicants contend that the addition of "monomer repeat units" and "consisting of" language to Claim 1 inherently requires that the "ion-conducting" and "spacer" regions of the copolymer contain the same number of arylenes respectively throughout the polymer chain. Since the McGrath and Rose copolymers could have different numbers of arylenes in the "ion-conducting" and "spacer" regions respectively, the Applicants conclude the art has been overcome. With respect to the rejections over Shinoda et al., the Applicants contend that the presence of disulfonylimide functionality in the prior art copolymer violates the claim language requiring the ion conducting region "consist of" an arylene segment wherein each arylene contains a pendant sulfonate group.

The Examiner respectfully disagrees with Applicants. The phrase "monomer repeat unit" could mean that ion conducting and spacer regions are repeated at various points throughout the entire copolymer but it does not necessarily mean that the ion conducting and spacer regions are comprised of identical structures respectively or even that the regions are necessarily alternating with each other when construing the language broadly. The Examiner notes that the language requiring the ion conducting and spacer regions "alternate" has been deleted from the instant claims.

Additionally, even though Applicants have included "consisting of" language in part a) and b) of the claims, the preamble of the claim only states the polymer "comprise" an ion-conducting and spacer region thus there can be additional functionalities present in polymer in addition to the ion-conducting and

Art Unit: 1796

spacer regions. Thus the presence of a disulfonylimide functionality of Shinoda does not necessarily violate the claim language.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Helmer-Metzmann et al. (US Patent 5362836).

Helmer-Metzmann et al. teaches a polymer electrolyte comprising a sulfonated aromatic polyether ketone (Abstract). The authors note that sulfonation of the arylene subunits only occur with aromatic rings that are bridged by oxygen atoms (Col. 3, lines 34-38) and that degree of sulfonation is

Art Unit: 1796

dependent upon reaction times and temperatures (Col. 3, lines 45-62 and Col. 5, lines 28-59). Formula II in Claim 2 (Col. 7) indicates a structure which the Examiner construes as having an ion-conductive arylene with a pendant sulfonic acid group and a spacer region which contains unsulphonated polyarylene.

9. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helmer-Metzmann et al. (US Patent 5362836).

Helmer-Metzmann is relied upon as disclosed above. Helmer-Metzmann, however, does not teach embodiments of the polymer being used as an electrocatalyst layer or used in a membrane electrode assembly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the proton conductive polymer in a electrocatalyst or membrane electrode assembly since such embodiments are notoriously well known in the art to be used in conjunction with proton conductive membranes to produce fuel cells and such embodiments do not define a patentably distinction over the prior art.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison P. Thomas whose telephone number is (571) 272-8917. The examiner can normally be reached on Mon-Fri 9:30 am to 6:00 pm.

Art Unit: 1796

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. P. T./
Examiner, Art Unit 1796

/Mark Kopec/
Primary Examiner, Art Unit 1796